

What is claimed is:

1. A solar collector with an absorber tube (13), a concentrator which focusses solar radiation onto the absorber tube, and at least one radiation-permeable cladding tube (15) enclosing the absorber tube (13), compensation pieces (17) for length compensation being provided in connection areas (50) between the cladding tubes, wherein at least one mirror collar (20) which encloses the cladding tube (15) is located in the connection areas (50).
2. A parabolic trough collector as recited in Claim 1 with an absorber tube (13) fastened to a support (14), a parabolic reflector (11) which focusses solar radiation onto the absorber tube, and a plurality of radiation-permeable cladding tubes (15) enclosing the absorber tube (13), compensation pieces (17) for length compensation being provided in connection areas (50) between the cladding tubes (15), wherein a mirror collar (20) which encloses the cladding tube (15) and has a conical shape that extends – either entirely or partially – around the circumference of the cladding tube (15) is located in the connection areas (50).
3. The parabolic trough collector as recited in Claim 2, wherein the mirror collar (20) is composed of two conic surfaces (21, 24) located next to each other and extending in opposite directions.
4. The parabolic trough collector as recited in Claim 3, wherein the conic surfaces (21, 24) have different taper angles.
- 25 5. A parabolic trough collector as recited in one of the Claims 2 through 4, wherein the mirror collars (20) cover all or part of the compensation pieces (17) in the longitudinal direction of the cladding tube (15).

6. The parabolic trough collector as recited in Claim 5,
wherein

two mirror collars (20) located next to each other enclose the entire length of a
connection area.

5 7. A parabolic trough collector as recited in one of the Claims 2 through 6,
wherein

the mirror collar (20) extends for about half of the circumference of the cladding tube
(15).

8. The parabolic trough collector as recited in one of the Claims 2 through 7,
10 wherein

the parabolic reflector (11) tracks the position of the sun via a single axis.

9. The solar collector as recited in Claim 1,
wherein

the mirror collar (20) includes at least one planar surface (30).

15 10. The solar collector as recited in Claim 9,
wherein

the planar surface (30) is oriented perpendicularly to the axis of the cladding tube (15).

11. The solar collector as recited in Claim 9 or 10,
wherein

20 the planar surface (30) is an annular surface (31).

12. The solar collector as recited in Claim 9,
wherein

the mirror collar (20) includes a plurality of planar surfaces (30) located on a cone.

13. The solar collector as recited in Claim 12,
25 wherein

the mirror collar includes two through eight planar surfaces (30).

14. The solar collector as recited in Claim 13 with a parabolic reflector (11)

composed of at least two parabolic segments (11a-d),

wherein

at least one planar surface (30) is assigned to at least one parabolic segment (11a-d).

15. The solar collector as recited in one of the Claims 1 through 14,

5 wherein

the h/L ratio is between 0.3 to 1, with h being the height of the mirror collar (20)
perpendicular to the axis of the cladding tube (15) and L being the length of the
connection area (50).

16. The solar collector as recited in one of the Claims 1 through 15,

10 wherein

the mirror collar (20) is composed of aluminum.